HARD DRIVE SETUP AND FUNCTIONAL TESTING

AMS-02 DDRS

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Change Record

Rev.	Date	Originator/Phone	Description
Baseline	07/22/10	Wesley Gordon	Initial Release
A	7/31/13	TIM URBAN	USE DELL LAPTOP AND QTY 2 DUAL DOCKS

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Table of Contents

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1. INTRODUCTION

The hard drives that will be used for the AMS-02 DDRS come directly from the manufacturer. As a result, they have to be initialized, to allow Windows to recognize them, need to be functionally tested, and have a 48 hour burn in performed.

2. PURPOSE

The purpose of this procedure is as follows:

- Provide Instructions for initializing hard drives for use with the DELL LAPTOP. TJU 7/31/13
- Provide Instructions for setting up Functional Test Software (Bart's Stuff Test)

3. Hard Drive Initializing

3.1 Overview

When you receive a new drive from the manufacturer, they are not configured for any operating system. This step-by-step procedure describes how to use the Windows XP Disk Management snap-in to configure a basic disk and prepare it for use.

3.2 Test Configuration & Setup.

Configure Test Setup per Figure A below.

Hardware List (PN/SN listed on TPS Document)

TJU 7/31/13

1. DELL Laptop
2. DELL Laptop AC Adapter
3. Dual/Single Docking Station (including USB Cable and AC Adapter)
4. Hard Drive (under test)

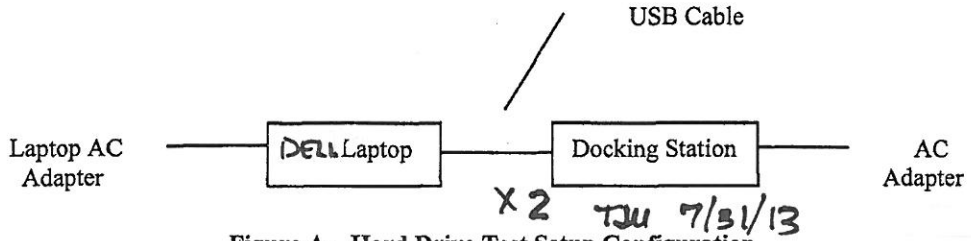
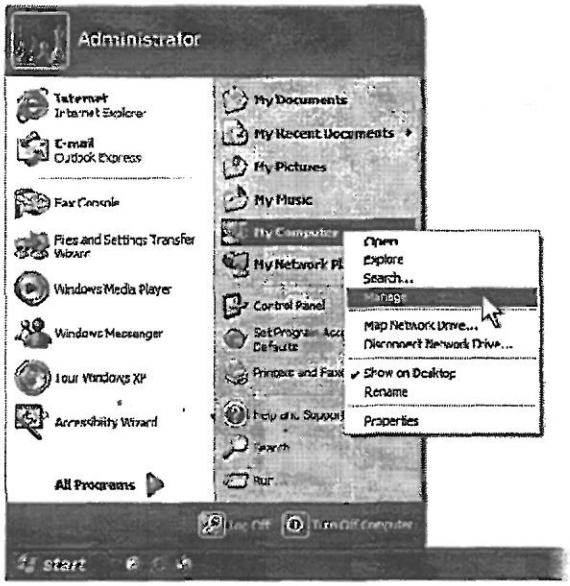


Figure A – Hard Drive Test Setup Configuration.

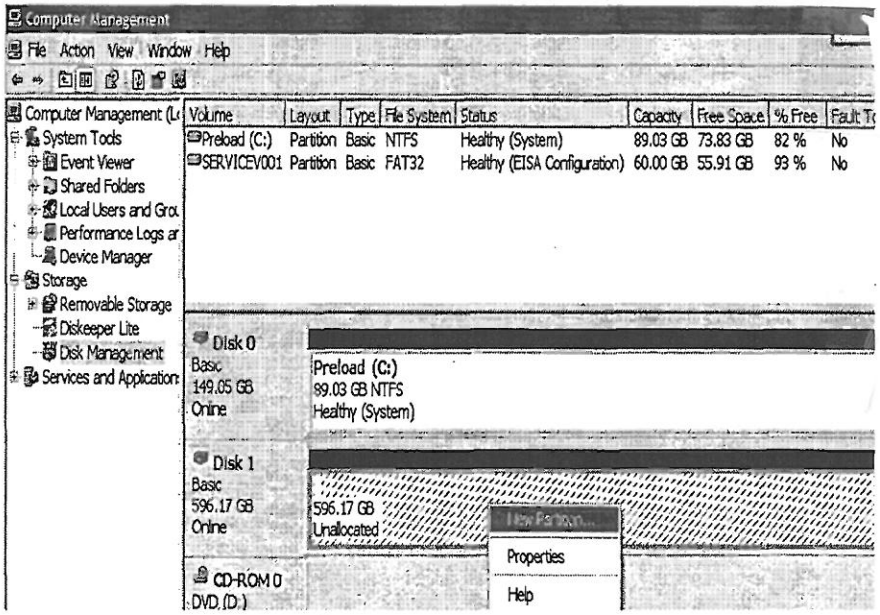
3.3 Format the Drive with NTFS

Note: This procedure assumes that the drive has been installed/connected to the computer and that you have already logged into the computer as the proper user.

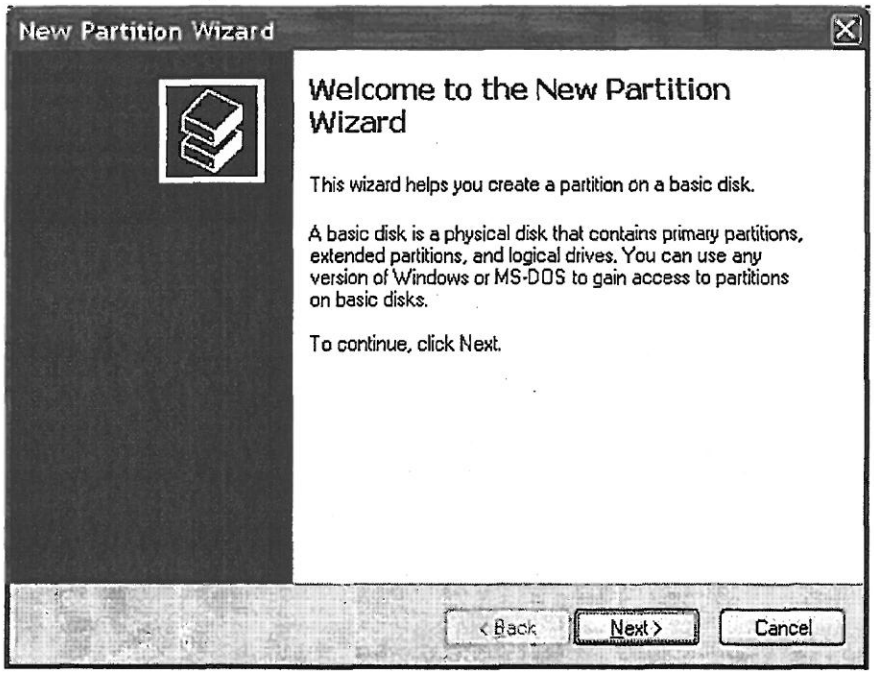
1. Click **Start**, right-click **My Computer**, and then click **Manage.**



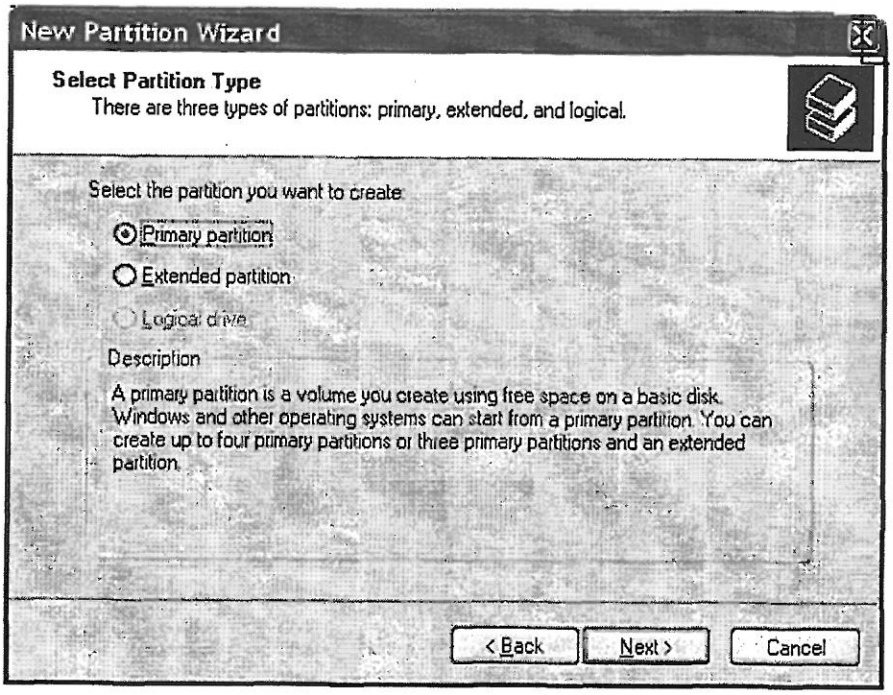
2. Under **Storage**, click **Disk Management.**



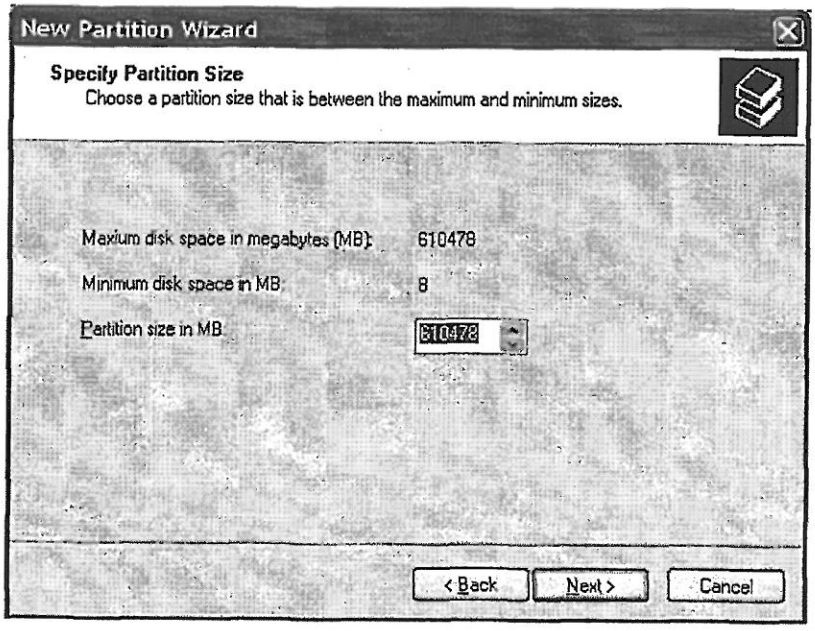
3. Partition wizard will execute as shown below. Click **Next**



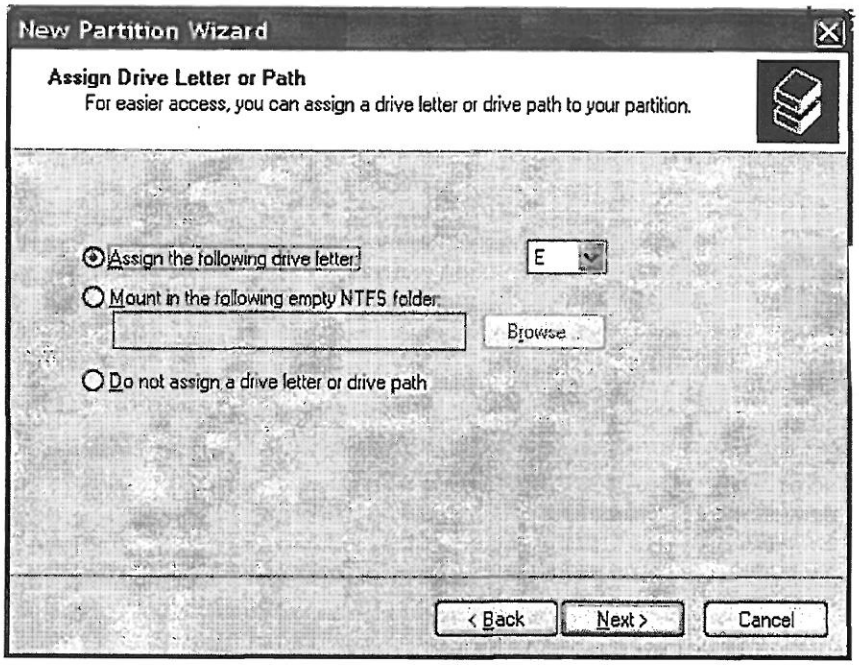
4. Select **Primary Partition** and click **Next**



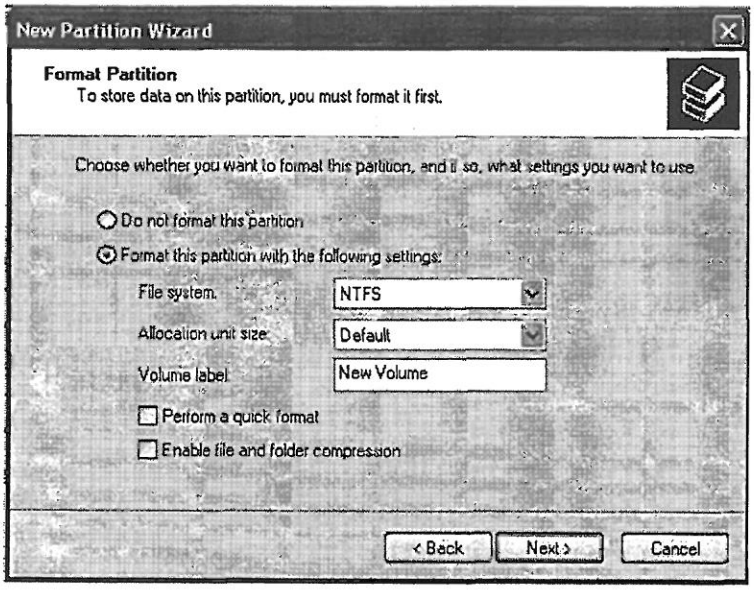
5. On the Partition Size Screen leave it as the default and simply click **Next.**



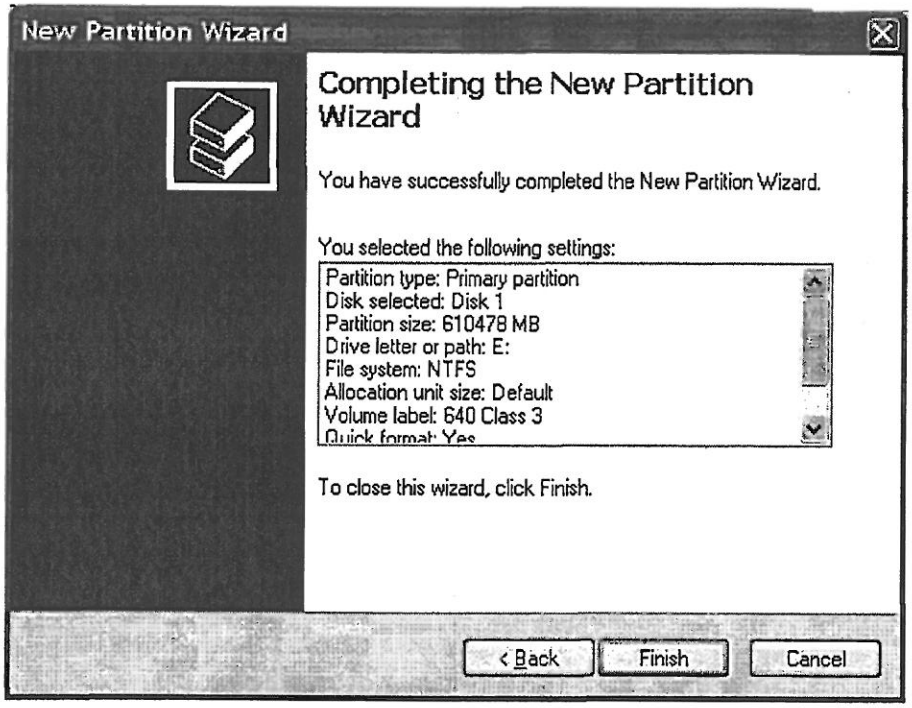
6. Ensure that **Assign the Following drive letter** is selected, click **Next**



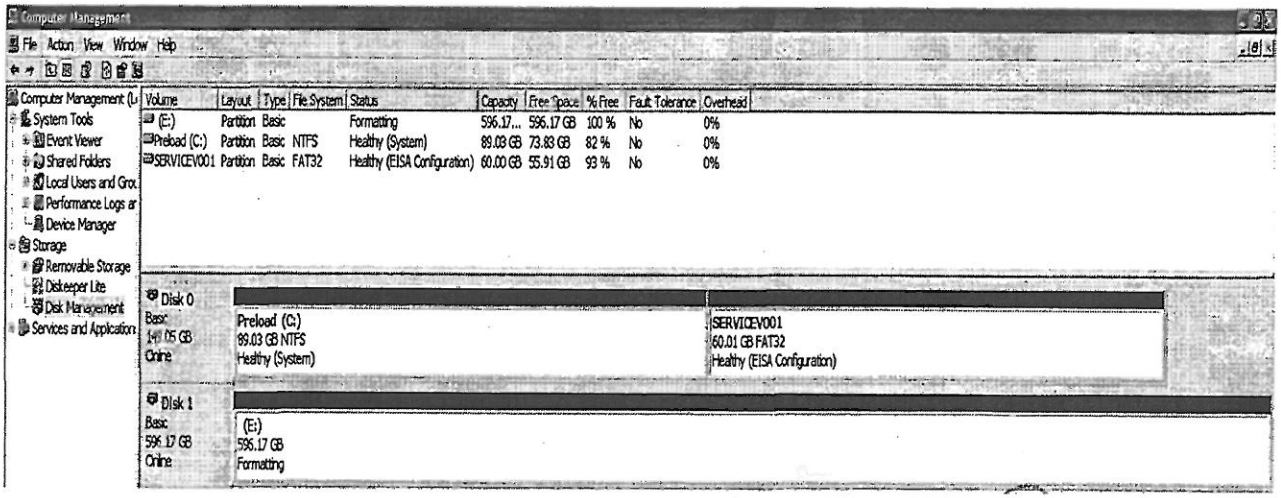
7. When the Format Partition Window is displayed ensure that the **Perform a Quick Format** has been selected and click **Next**

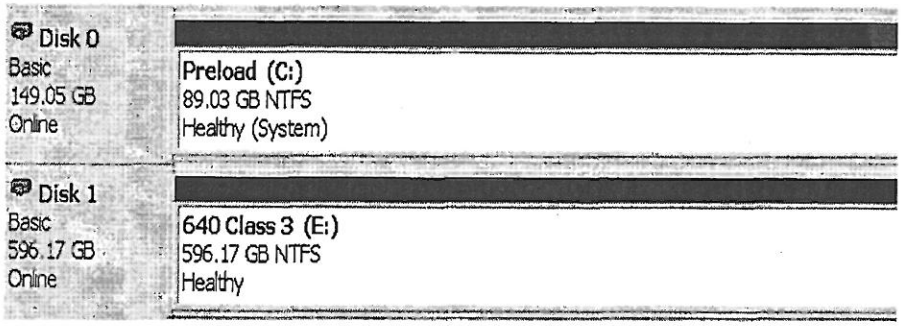


8.The confirmation window will be displayed, click **Finish.**



9. The status window will show 'Formating' message while the drive is being setup.





10. Once the setup is complete the Drive will display a 'healthy' message and you have successfully completed the drive setup.

(QTY 4 or 2, THU 7/31/13)

11. Record the Hard Drive Letter that was assigned _____
    Note: Drive letter will be need to properly setup the testing software.

4. Perfoming the functional Test

4.1 Overview

Bst5 (Bart's Stuff Test v5) is a small win32 application for long term heavy stress testing storage devices. Bst5 supports testing at file and device level.

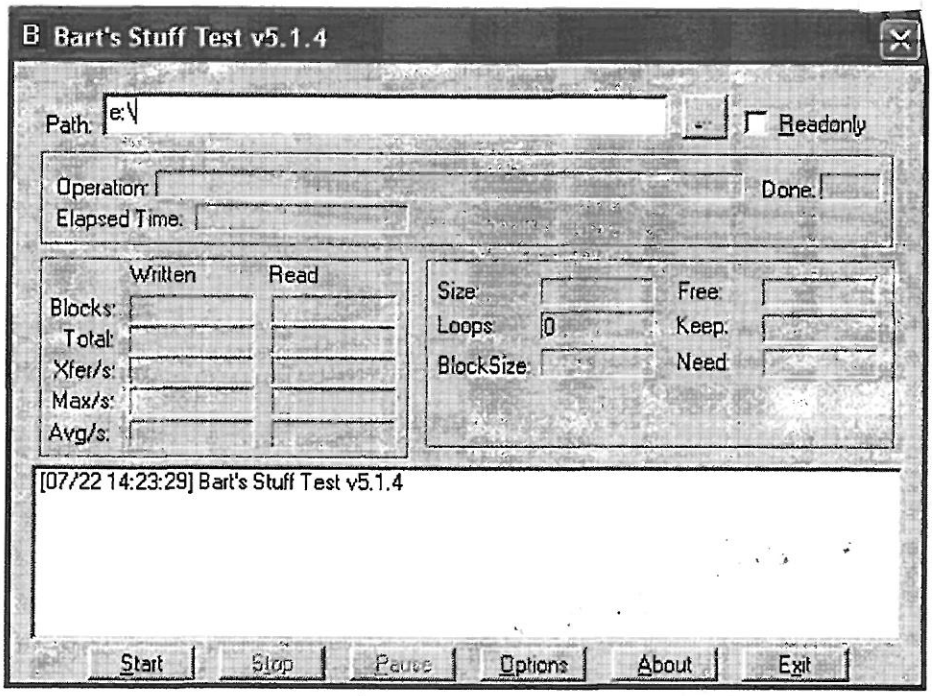
Device level support enables you to test local devices directly block-by-block. In bst5 this is seen as a "low" level test, bst5 writes/reads data directly to/from the storage device without the use of any file system. In other words, the storage device or media does not need to be partitioned or formatted before testing. If any file system exists on a storage device or media, a non-read only test will overwrite any data on it.

For normal operations the test will run forever and will perform a Read First Test, Sequential Test, Random Test, and Half Stroke Test.

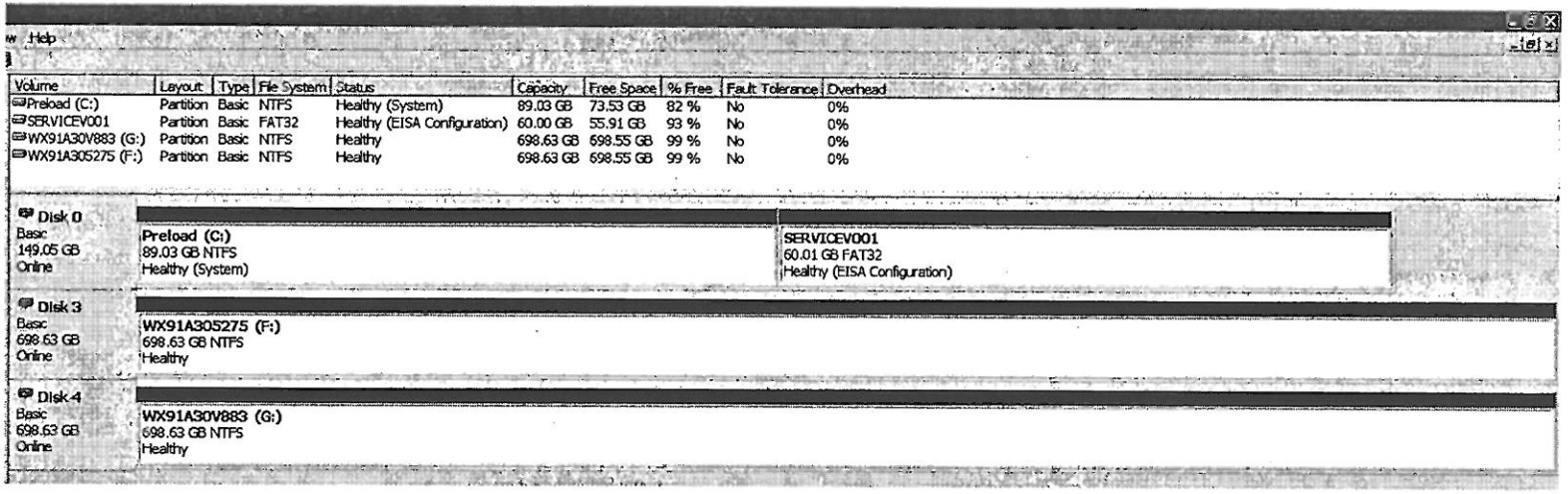
4.2 Setup

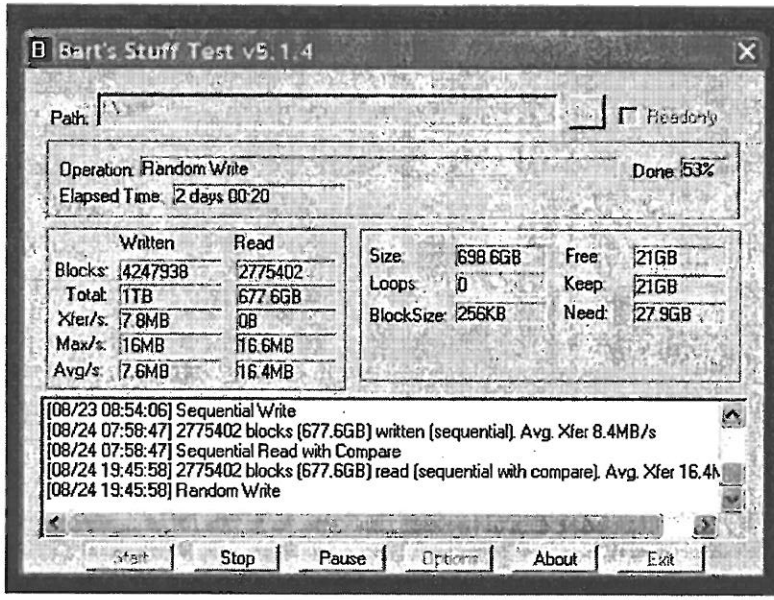
NOTE: X4 OR 2, THU 7/31/13

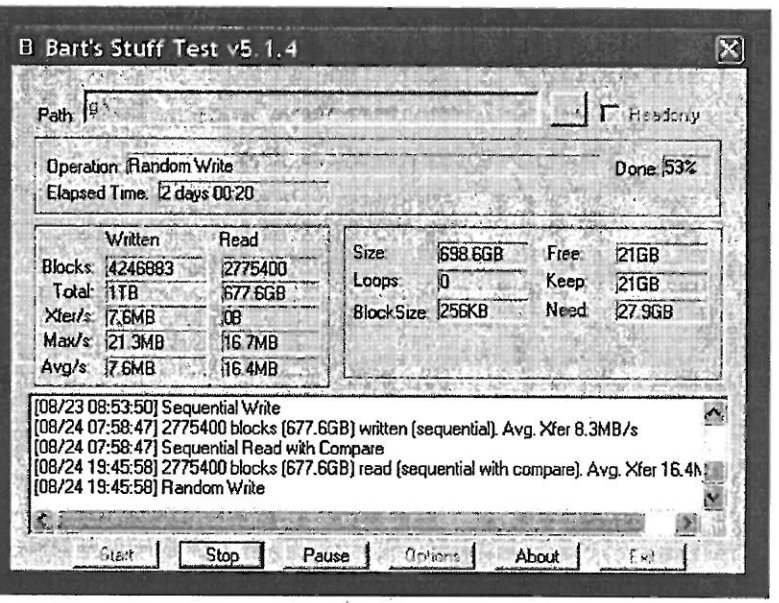
1. **Double Click** on the bst5.exe icon
2. Change the path to the drive letter that you wish to test.
   Note: is this screen shot we are test drive e:\



3. Click **Start**
4. Record the **Start Time:** _____.
5. Allow the test to run for **At Least 48 Hours.**
6. **Click Stop**
7. Record the **Stop Time:** _____.
8. Peform screen capture(s) of the test data and attach it to the TPS.


Help
Volume | Layout | Type | File System | Status | Capacity | Free Space | % Free | Fault Tolerance | Overhead
Preload (C:) | Partition | Basic | NTFS | Healthy (System) | 89.03 GB | 73.53 GB | 82 % | No | 0%
SERVICEV001 | Partition | Basic | FAT32 | Healthy (EISA Configuration) | 60.00 GB | 55.91 GB | 93 % | No | 0%
WX91A30V883 (G:) | Partition | Basic | NTFS | Healthy | 698.63 GB | 698.55 GB | 99 % | No | 0%
WX91A305275 (F:) | Partition | Basic | NTFS | Healthy | 698.63 GB | 698.55 GB | 99 % | No | 0%
Disk 0
Basic
149.05 GB
Online
Preload (C:)
89.03 GB NTFS
Healthy (System)
SERVICEV001
60.01 GB FAT32
Healthy (EISA Configuration)
Disk 3
Basic
698.63 GB
Online
WX91A305275 (F:)
698.63 GB NTFS
Healthy
Disk 4
Basic
698.63 GB
Online
WX91A30V883 (G:)
698.63 GB NTFS
Healthy


Bart's Stuff Test v5.1.4
Path:
Readonly
Operation: Random Write
Done: 53%
Elapsed Time: 2 days 00:20
Written
Read
Blocks: 4247938
2775402
Total: 1TB
677.6GB
Xfer/s: 7.8MB
0B
Max/s: 16MB
16.6MB
Avg/s: 7.6MB
16.4MB
Size: 698.6GB
Free: 21GB
Loops: 0
Keep: 21GB
BlockSize: 256KB
Need: 27.9GB
[08/23 08:54:06] Sequential Write
[08/24 07:58:47] 2775402 blocks (677.6GB) written (sequential). Avg. Xfer 8.4MB/s
[08/24 07:58:47] Sequential Read with Compare
[08/24 19:45:58] 2775402 blocks (677.6GB) read (sequential with compare). Avg. Xfer 16.4M
[08/24 19:45:58] Random Write
Start
Stop
Pause
Options
About
Exit


Bart's Stuff Test v5.1.4
Path:
Readonly
Operation: Random Write
Done: 53%
Elapsed Time: 2 days 00:20
Written
Read
Blocks: 4246883
2775400
Total: 1TB
677.6GB
Xfer/s: 7.6MB
0B
Max/s: 21.3MB
16.7MB
Avg/s: 7.6MB
16.4MB
Size: 698.6GB
Free: 21GB
Loops: 0
Keep: 21GB
BlockSize: 256KB
Need: 27.9GB
[08/23 08:53:50] Sequential Write
[08/24 07:58:47] 2775400 blocks (677.6GB) written (sequential). Avg. Xfer 8.3MB/s
[08/24 07:58:47] Sequential Read with Compare
[08/24 19:45:58] 2775400 blocks (677.6GB) read (sequential with compare). Avg. Xfer 16.4M
[08/24 19:45:58] Random Write
Start
Stop
Pause
Options
About
Exit